



NWS Des Moines

Cover Photo: On July 14, 2021 approximately 26 tornadoes occurred across Iowa, including this EF-3 tornado that cause significant damage in Lake City, Iowa. Photo courtesy of Brian Emfinger.

The Weather Whisper

August 2021

July 14th Iowa Tornado Outbreak

Brooke Hagenhoff, Meteorologist

Supercells developed over portions of north-central Iowa on the afternoon of Wednesday, July 14, 2021. The environment was highly supportive of tornadic development with storms exhibiting rapid development and rotation. Most tornadic activity occurred along and north of the highway corridor, from Lake City to Stanhope, Jewell, Waverly, and into eastern Iowa. The most significant damage occurred with the Lake City tornado which was rated as an EF-3. Tornado strength is rated by the damage that they cause and is determined by NWS meteorologists on damage surveys after the event or by damage reports and pictures sent to the office by local officials and the public. Satellite imagery is also used to determine a tornado path when it moves across open land. In many cases, a tornado may not strike anything and thus not causing damage with which to determine the strength. In these cases the tornado is listed as “EF-Unknown”.

NWS Des Moines meteorologists conducted damage surveys for the 5 strongest tornadoes on July 14th. Preliminarily, approximately 12 tornadoes occurred in the NWS Des Moines area and 26 for the state of Iowa. This would rank as the 3rd most in a single day in Iowa since reliable records began in the 1980s. As additional high resolution satellite imagery comes available, the number of tornadoes is subject to change. Up-to-date information will be made available on our [July 14 Tornado Outbreak Event Page](#) as it is known.



Tornado track visible within corn field in Bremer County, Iowa. Photo courtesy of Emergency Manager Kip Ladage.



Home significantly damaged in Lake City, Iowa. Photo taken during NWS storm survey.



Damage to grain bins and trees in Shell Rock, Iowa. Photo courtesy of Emergency Manager Chris Showalter

July 9th Des Moines Metro Hail Storm

Brooke Hagenhoff, Meteorologist

A single super cell moved across central Iowa producing extremely large hail at times. In fact, hail up to baseball sized (2.75 inch) in was reported in Ogden. The storm then entered the Des Moines Metro with 3 +inch hail was reported a few times in the Des Moines metro. Golf ball (1.75 inch) and quarter (1 inch) sized hail was reported throughout the storm's life cycle. In fact, 2 inch hail fell at out office in Johnston.

During the storm, many drivers on the interstate parked under overpasses, causing significant traffic problems. Remember: **NEVER park under an overpass in a storm.** This creates an extremely dangerous situation for those on the road causing accidents, blocking emergency vehicles, and

preventing people from exiting the roadway to seek sturdy shelter. During tornadoes and wind storms this is also extremely dangerous since debris is funneled under these overpasses and your vehicle is exposed to even more debris than it would be elsewhere.



Iowa DOT traffic camera shows travelers stopped under NW Beaver Dr causing a serious bottleneck on I-35.



Hail at the NWS Des Moines Office

Building a Severe Weather Kit

Kristy Carter, Meteorologist

We often talk about what to do [in the event of a tornado](#) like:

1. Go to your home's designated safe location, which should be on the lowest level away from windows.
2. Use helmets, pillows, or even mattresses to protect your head and neck from falling/flying debris.

And the [actions to take before severe weather strikes](#) like:

1. Have multiple ways to receive warning information.
2. Make sure all family members know the tornado safe location in your home.
3. Have a family communication plan.
4. Store an emergency kit in your safe location.
5. Don't forget your pets! Have a plan for them too.
6. Practice!



(Visit [ready.gov/make-a-plan](https://www.ready.gov/make-a-plan) for step-by-step instructions and assistance in developing your severe weather plan)

However, we don't often talk about what items should be included in an [emergency kit](#). A disaster supplies kit should be a collection of basic household items you and your family may need in the event of an emergency. A basic emergency kit could include the following recommended items, though you should consider any unique needs your family may have such as infants, pets, or seniors. For a full detailed (and printable) list, [visit ready.gov/kit](https://www.ready.gov/kit).

After assembling your kit, store it in your safe location or another designated place where you could access it quickly in case of an emergency. Make sure everyone in your household knows where your severe weather kit is kept. Consider building extra kits for your workplace or car and check your kits at least once a year to replace expired items and update your kits as your family's needs change.



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9607 NW Beaver Drive
Johnston, Iowa 50131
Phone: 515-270-2614

Editor E-mail:
Kenneth.Podrazik@noaa.gov
Brooke.Hagenhoff@noaa.gov